

Nurse practitioners: meeting the ED's needs

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Abstract:

Results of a descriptive analysis of emergency-department (ED) census data were used as a basis for initiating an innovative nurse practitioner (NP) position. In establishing the NP role, census levels, demographic considerations, legal considerations and scope of practice were considered.

Keywords: emergency department wait time | nurse practitioners (NP)

Article:

According to the American Hospital Association, ED personnel cared for 106% more patients in 1990 than in 1980.¹ National ED census ED census studies report that 60% to 80% of today's ED patients present with nonurgent or minor medical problems. The poor and uninsured are the most likely group to use the ED inappropriately for minor health complaints, because of a lack of or inadequate health insurance.² In addition, many people are poorly informed as to when and where to obtain health care for different complaints.³ Finally, federal legislation identifying emergency medicine as a primary care specialty and the 1986 Consolidated Omnibus Budget Reconciliation Act have also contributed to the public's awareness that the ED will provide care to anyone regardless of ability to pay or the complaint given.⁴

Addressing the challenge

The increased use of EDs has contributed to what some analysts describe as a nationwide crisis in ED medicine.⁵ As a result, EDs are overcrowded with nonurgent patients. This overcrowding can interfere with the delivery of care to critically ill patients. Also cited are increasing amounts of bad debt generated by patients who cannot pay for services, and the insufficient number of board-certified emergency-medicine specialists to meet the increasing census-level demands. As a result, many EDs have had to close or significantly reduce their services, leaving many communities without emergency services.⁶

Two approaches most often used to address the present challenges include: 1) establishing fast-track areas of nonurgent outpatient clinics in existing EDs, and 2) employing nurse practitioners to augment physician staffing in the nonurgent patient area.⁷ Nurse practitioners (NPs), trained as primary care specialists, are well equipped to care for the majority (60% to 80%) of patients presenting to today's EDs.

Nurse practitioners began staffing EDs during the 1970s. The benefits of NP staffing in the ED include:

- increased quality, cost-effective patient care
- decreased malpractice costs and risks⁸
- increased ED physician corporate profitability
- reduced actual contact time physicians must spend with nonurgent patients (the NP performs the patient exam, documents the chart and conducts patient education)
- increased patient satisfaction.

To identify ED census problems and NP staffing implications, a study was undertaken. (See Exhibit I.) Preliminary census data collected over a two-year period revealed a 1990 census level of 45,000, with a 9% annual census growth rate. To meet its increasing census, the ED physically expanded from six to 15 exam rooms, six to nine nurses per shift, doubled physician coverage from 8 a.m. to 2 p.m., and designated one-third of the ED as a fast track for nonurgent patient care. Despite these changes, the number one patient complaint continued to be wait time; physicians and nurses continued to feel the burden of high census days and patient demands.

EXHIBIT I	
Purpose:	To evaluate nonurgent census levels
Location:	One southeastern emergency department
Time Frame:	September 1990
Population:	Insured, underinsured and uninsured emergency-department patients
Tool:	A descriptive study using census data
Sample:	3,157 patient charts

To evaluate whether nonurgent census levels exceeded those recommended for one physician provider (3.1 patients per hour), the number of nonurgent patients presenting to the ED for care was obtained for one month (including each day of the week and every hour of the day.)⁹ Thus, analysis determined both peak nonurgent visits by time of day as well as peak visits by day of week. Demographic characteristics of nonrevenue patients—insurance status, age and gender—also were examined to determine if these patients differed in any way from patients with critical problems. Data on actual times spent in the ED evaluated whether the existing ED system of fast-track triage and treatment was meeting efficiency goals.

At the time of the study, a licensed nurse initiated the patient-flow system with a rapid two-minute triage. Following triage, patients were classified as either urgent (needed to be seen within one hour for complaints such as abdominal pain of unknown etiology, febrile illnesses in

the elderly, or unstable chronic diseases), emergent (requiring immediate treatment, such as seizures, chest pain, respiratory distress, or severe trauma), or non urgent.

Urgent and emergency patients waited in a designated area for rapid transfer into the main ED treatment area; nonurgent patients waited in a separate area for transfer to the fast-track treatment area. A goal of 90 minutes was established to treat and release nonurgent patients in the fast-track area. Time data were analyzed to evaluate whether fast-track goals had been met, and to determine whether nonurgent patients had an excessive wait or treatment times that justified increased staffing.

Coding data... analyzing charts

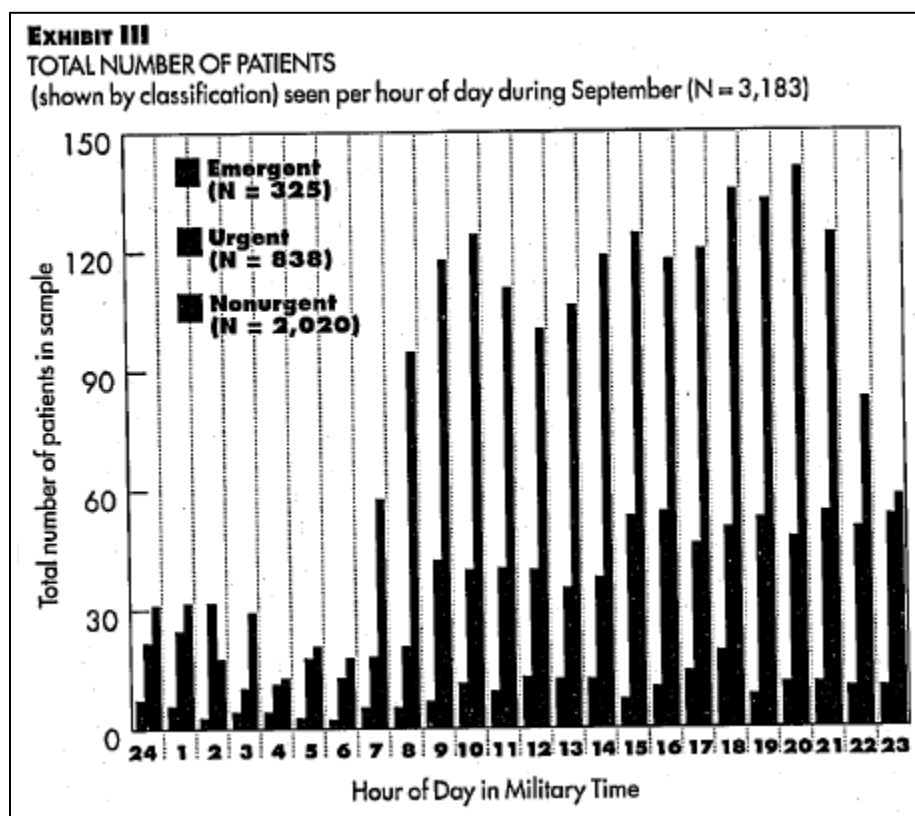
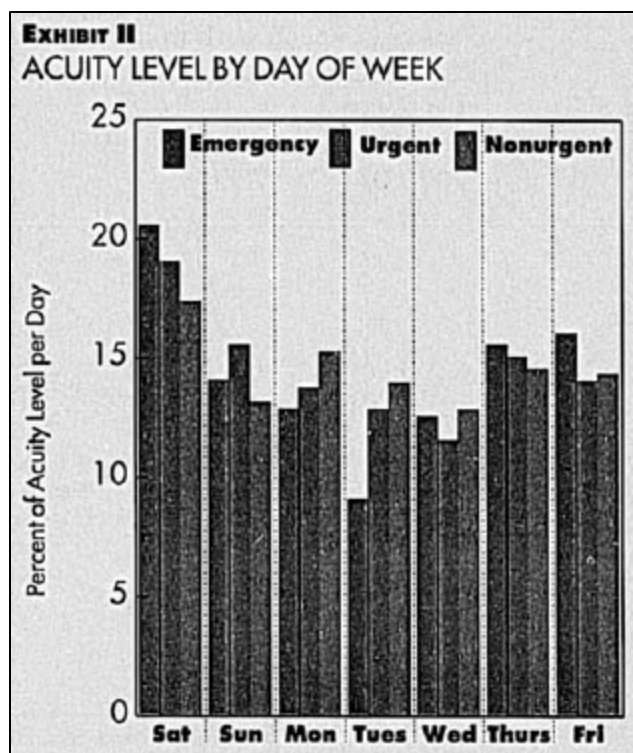
As a result of coding errors, 29 of the total charts obtained had to be discarded, leaving a total of 3,157 usable charts. This number represented 82% of all patients seen during that period, with 18% of charts lost or otherwise unaccounted for. Data coded from each chart included patient age, gender, acuity and payor status. Three categories of payor status were examined: insured, uninsured, or underinsured (i.e., Medicaid, Medicare). To evaluate existing ED efficiency, several times were coded from the patient chart:

- *Time 1*—the time the patient began the ED triage process, whether entering the ED by ambulance or the front door
- *Time 2*—the time triage was completed
- *Time 3*—the time recorded when the patient left the waiting area to move to the treatment area
- *Time 4*—the time the patient was discharged from the ED.

To evaluate wait time, Time 2 was subtracted from Time 3. Total treatment time was considered to be from Time 3 to Time 4; thus, the total ED visit time was the difference between Time 1 and Time 4.

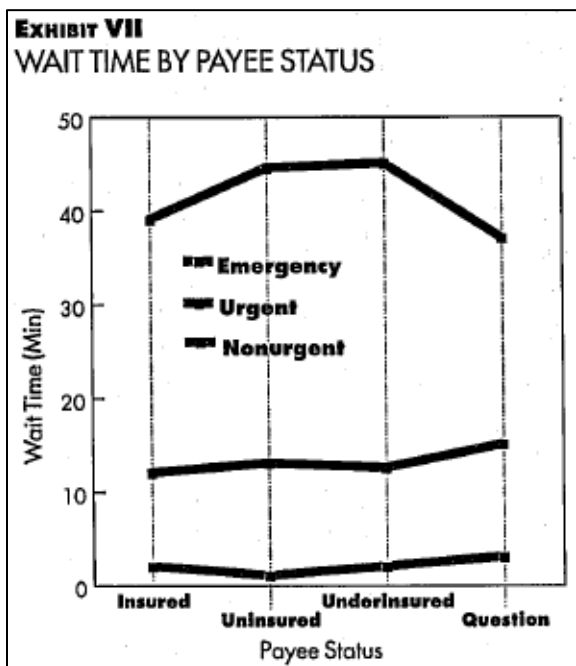
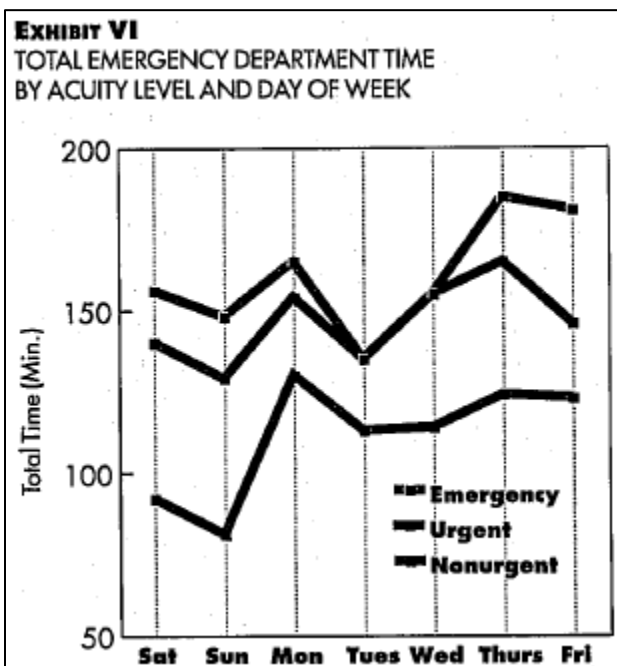
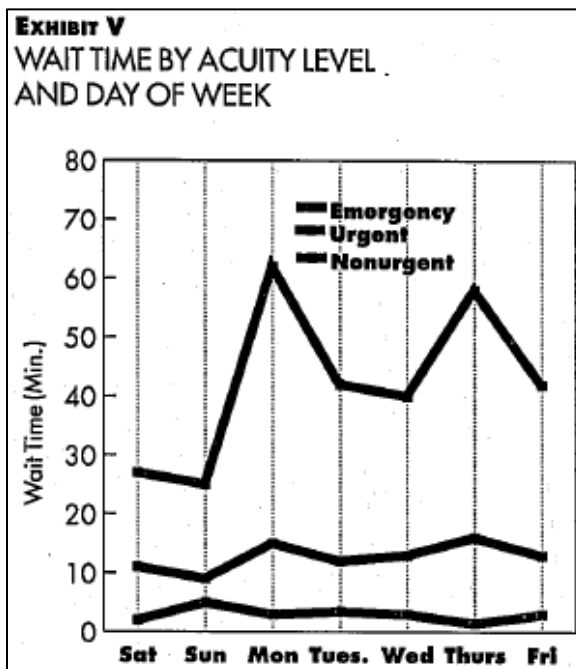
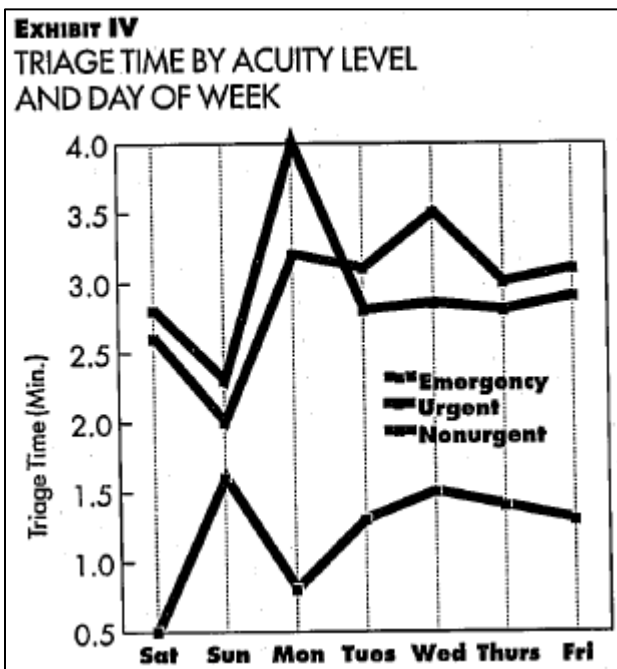
Chart analysis revealed that 63.4% of patients admitted to the ED during this study had been triaged as nonurgent. Thirty-one percent of these nonurgent patients lacked any type of health insurance; 29% were underinsured (had Medicaid or Medicare); and 29% were fully insured. Payor analysis showed that children and older adults were the most likely groups to be underinsured, but school-age children were the largest group of insured nonurgent patients. Young adults ages 18 to 30, most frequently classified as nonurgent, made up the largest group of uninsured persons in this sample. Analysis of demographic characteristics showed that most nonurgent patients were under age 40, and the majority were children under 12 years of age.

Exhibit II shows the percentage of patients seen in the ED by acuity level and day of the week. Exhibit III shows the total number of patients seen in the ED by hour of the day for the entire month. From 8 a.m. to 10 p.m., nonurgent-patient census levels exceeded 3.1 per hour, and during many hours more than six to eight patients were seen per hour.



Exhibits IV, V and VI show the results of a 2-factor analysis of variance for times spent in the ED-by patient acuity level and day of the week. All results were significant at the $p=.0001$ level.

Triage times varied for patients of different acuity levels; nonurgent patients spent longer amounts of time being triaged than did urgent and emergent patients. On average, wait time for nonurgent patients was 40 minutes longer than for urgent and emergent patients; however, on Mondays and Thursdays, nonurgent wait time exceeded two hours. Nonurgent patients spent 100 minutes on average in the ED in the fast track, and on some days total ED times were even longer. Exhibit VII demonstrates that wait times for patients were not significantly different when payor status was examined.



Analyzing census trends

Of interest was the finding that among all patient acuity levels, significantly more nonurgent patients were insured when compared with either emergent or urgent patients. This finding was quite unexpected because it was predicted that nonurgent patients were most likely medically indigent and denied access to private physician care. The finding that many nonurgent patients were in fact insured may still reflect a community's access problems, but it confirms that the fast-track area was generating income for the ED. Because long waiting periods may decrease patient satisfaction, an NP may improve patient flow, decrease wait times, and thereby improve patient satisfaction and return visits to the ED.

Demographic data revealed that the majority of nonurgent patients seen were young adults (below age 40) and children, suggesting that a family nurse practitioner may provide the most appropriate training and skills for this type of patient. Because the number of nonurgent patients seen in the ED exceeded 3.1 patients per hour from 8 a.m. to 10 p.m. Monday through Saturday, additional staffing for the fast-track area during those peak periods was supported. Rather than increasing staffing with additional board-certified emergency physicians, NPs were considered a more cost-effective staffing solution.

Of interest was the finding that non urgent patients visited the ED throughout the week when private care was available. Because the community that this ED serves has more physicians per population than any other county in the state, access difficulties alone cannot explain these census trends. Increased nonurgent ED utilization may be a trend that has nothing to do with access or income. Because nonurgent ED use can generate income, efficient fast-track areas or clinics will only enhance patient satisfaction.

This descriptive study supported findings that nonurgent census trends were increasing and were generating income, but exceeding present staffing. Thus, based on the utilization patterns for nonurgent patients (for hour of day, day of week, and patient demographic characteristics), an NP was hired for Monday through Friday for the 3 to 11 p.m. shift.

A comprehensive set of written protocols, which was broad enough to encompass the wide range of patients seen in the ED was established. Laws governing NP practice vary by state, thus ED managers need to become familiar with issues of third party, Medicaid and Medicare reimbursement guidelines to maximize reimbursement for services provided. In states where NPs do not have third-party reimbursement privileges, physicians may need to sign NP patient charts and briefly screen patients to avoid questions of insurance fraud. Supervising the NP in the ED may range from a periodic patient chart review to actual physician consultation, chart review and physician screening exam of NP patients. Regardless of how the role is eventually actualized, NPs are a viable option for all ED managers.

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